

AMENDMENTS TO CLAIMS

The following complete listing of claims replaces all previous claims in the application.

Listing of claims:

1-102. (Canceled)

103. (Currently amended) A method of predicting metastatic melanoma survival comprising:

 providing a blood, serum or plasma sample containing acellular DNA from a human subject suffering from metastatic melanoma;

 comparing DNA markers selected from the group consisting of D12S1657, and D12S393, D12S1706, and D12S346 in the acellular DNA with the same DNA markers in a control human DNA;

 determining from the comparison step if the acellular DNA has a loss of heterozygosity at one or more of the DNA markers; and

 predicting that the subject having a loss of heterozygosity at one or more of the DNA markers has a lower probability of survival compared to a human subject suffering from metastatic melanoma with no loss of heterozygosity.

104. (Previously presented) The method of claim 103, wherein the acellular and control DNA are amplified.

105. (Previously presented) The method of claim 103, wherein the control DNA is obtained from non-neoplastic tissue from the subject.

106. (Previously presented) The method of claim 103, wherein the control DNA is obtained from a biological fluid or tissue from a normal subject.

107. (Previously presented) The method of claim 103, wherein the control DNA is

obtained from peripheral blood lymphocytes from the subject.

108. (Previously presented) The method of claim 103, wherein the loss of heterozygosity comprises a 40% or more reduction of peak intensity for the acellular DNA marker as compared to the corresponding control DNA marker.

109. (Currently amended) A method of metastatic melanoma prognosis comprising:

providing a blood, serum or plasma sample containing acellular DNA from a human subject suffering from metastatic melanoma;

comparing DNA markers selected from the group consisting of D12S1657, and D12S393, D12S1706, and D12S346 in the acellular DNA with the same DNA markers in a control human DNA;

determining from the comparison step if the acellular DNA has a loss of heterozygosity at one or more of the DNA markers; and

predicting that the subject having a loss of heterozygosity at one or more of the DNA markers has a poor prognosis compared to a human subject suffering from metastatic melanoma with no loss of heterozygosity.

110. (Previously presented) The method of claim 109, wherein the acellular and control DNA are amplified.

111. (Previously presented) The method of claim 109, wherein the control DNA is obtained from non-neoplastic tissue from the subject.

112. (Previously presented) The method of claim 109, wherein the control DNA is obtained from a biological fluid or tissue from a normal subject.

113. (Previously presented) The method of claim 109, wherein the control DNA is

obtained from peripheral blood lymphocytes from the subject.

114. (Previously presented) The method of claim 109, wherein the loss of heterozygosity comprises a 40% or more reduction of peak intensity for the acellular DNA marker as compared to the corresponding control DNA marker.

115. (Currently amended) A method of predicting efficacy of melanoma cancer therapy comprising:

providing a blood, serum or plasma sample containing acellular DNA from a human subject suffering from Stage IV melanoma prior to administration of a cancer therapy combination of dacarbazine, cisplatin, vinblastin, interferon alpha-2b, IL-2, and tamoxifen;

comparing DNA markers selected from the group consisting of D12S1657, and D12S393, D12S1706, and D12S346 in the acellular DNA with the same DNA markers in a control human DNA;

determining from the comparison step if the acellular DNA has a loss of heterozygosity at one or more of the DNA markers; and

predicting that the cancer therapy efficacy of the subject having a loss of heterozygosity one or more of the DNA markers will likely be poor compared to a subject suffering from Stage IV melanoma with no loss of heterozygosity.

116. (Cancelled)

117. (Cancelled)

118. (Cancelled)

119. (Previously presented) The method of claim 115, wherein the acellular and control DNA are amplified.

120. (Previously presented) The method of claim 115, wherein the control DNA is obtained from non-neoplastic tissue from the subject.

121. (Previously presented) The method of claim 115, wherein the control DNA is obtained from a biological fluid or tissue from a normal subject.

122. (Previously presented) The method of claim 115, wherein the control DNA is obtained from peripheral blood lymphocytes from the subject.

123. (Previously presented) The method of claim 115, wherein the loss of heterozygosity comprises a 40% or more reduction of peak intensity for the acellular DNA marker as compared to the corresponding control DNA marker.

124. (Currently amended) A method of predicting responsiveness to cancer therapy comprising:

providing a blood, serum or plasma sample containing acellular DNA from a human subject suffering from Stage IV melanoma prior to administration of a cancer therapy combination of dacarbazine, cisplatin, vinblastin, interferon alpha-2b, IL-2, and tamoxifen;

comparing DNA markers selected from the group consisting of D12S1657, and D12S393, D12S1706, and D12S346 in the acellular DNA with the same DNA markers in a control human DNA,

determining from the comparison step if the acellular DNA has a loss of heterozygosity at one or more of the DNA markers; and

predicting that the subject having a loss of heterozygosity at one or more of the DNA markers has a poor likelihood of responding to cancer therapy compared to a subject suffering from Stage IV melanoma with no loss of heterozygosity.

125. (Cancelled)

126. (Cancelled)

127. (Cancelled)

128. (Previously presented) The method of claim 124, wherein the acellular and control DNA are amplified.

129. (Previously presented) The method of claim 124, wherein the control DNA is obtained from non-neoplastic tissue from the subject.

130. (Previously presented) The method of claim 124, wherein the control DNA is obtained from a biological fluid or tissue from a normal subject.

131. (Previously presented) The method of claim 124, wherein the control DNA is obtained from peripheral blood lymphocytes from the subject.

132. (Previously presented) The method of claim 124, wherein the loss of heterozygosity comprises a 40% or more reduction of peak intensity for the acellular DNA marker as compared to the corresponding control DNA marker.